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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/508,405	05/08/2000	PAIVI HUOVINEN	365-442P	9154

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EXAMINER

RABAGO, ROBERTO

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 01/24/2002

12

Please find below and/or attached an Office communication concerning this application or proceeding.

12-12

**Office Action Summary**

Application No.

09/508,405

Applicant(s)

HUOVINEN ET AL.

Examiner

R. Rabago

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 1-7 and 42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6, 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicants' election without traverse of group II, claims 8-41 in Paper No. 11 is acknowledged. Claim 42, which has been amended to depend from claim 1 or 5, has been added to non-elected group I.

### *Specification*

2. The specification is objected to for the following reasons:

(a) At page 4, line 21, reference is made to claim 1. However, the claims will likely be amended and possibly renumbered and reordered during prosecution, and therefore the content of claim 1 as filed may bear only scant resemblance to a claim numbered as 1 in any patent which may issue from the instant application. The specification must describe the disclosed invention without reliance on the text of the claims. Correction is required.

(b) The specification is objected on the grounds that the amendments to the specification filed 1/7/2002 have introduced new matter. In this amendment, numerous new documents have been cited and added to the specification, with the implication that these are "patent family" documents. However, even if the Finnish documents are priority applications of the newly cited publications, the disclosures of the new publications may not be identical with the Finnish priority applications, and therefore the new insertions to the specification may incorporate new matter.

(c) The specification is objected to as failing to provide proper antecedent basis for the subject matter of claim 41. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

*Claim Objections*

4. The claims are objected to for the following reasons:
- (a) In claim 8, line 2, "haul-off" should read "haul-off method".
  - (b) In claim 27, "evaporation" is misspelled.
  - (c) Claims 32 and 34 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim may not depend from another multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.
  - (d) In claim 40, "temperature" has been misspelled.

*Claim Rejections - 35 USC § 112*

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 8-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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(a) In claims 8-10, the catalysts is stated to be "capable of" making a polymer of specific properties. This phrasing is unclear because it cannot be determined whether this limitation is meant to specify that the resultant polymer of the claimed method actually has the specified properties, or whether it simply means that under some arbitrary set of polymerization conditions (not necessarily those in the method of the claims), the catalyst would be able to make a polymer with the specified properties.

(b) In claim 22, the final step is not understood. Polypropylene is the product made in each of the two stages, and therefore it cannot be determined what is meant by "separating ... the polypropylene from the second reaction product." The final clause of this claim, which appears to recite separating the two components from each other, does not appear to have been described in the specification.

(c) Claims 11, 13 and 39 are indefinite because the parameter Me has not been defined.

(d) In claim 15, the inclusion of "typically" and "such as" renders the claimed scope indefinite. Furthermore, each of R and R' are defined twice.

(e) Claim 33 recites the limitation "the third polymerization reaction" and "the third polymerization product". There is insufficient antecedent basis for these limitations in either this claim or the parent claim.

(f) In claim 39, the inclusion of "for example" renders the claimed scope indefinite.

(g) In claim 8, the meaning of the limitation "a melt strength of at least 2.5" cannot be determined because the neither the specification nor the claims provide any indication of the parameters used to determine the melt strength. Although a schematic of the apparatus has been provided, there is no information regarding extrusion temperature, capillary size, stretching

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ratio/speed, etc. Different values of these parameters would affect the final result, and therefore the relationship of the claimed value of "2.5 g" to the nature of the polymer is indefinite.

(h) Claim 31 recites the limitation "the overhead stream". There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 8, 9, 11-13, 17, 18, 22, 23, 25, 28, 29, 32 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Cecchin et al. (EP 573862).

The reference shows in Examples 1 and 4 processes of multi-stage polymerization containing all claimed limitations.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 21 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cecchin et al. (EP 573862).

Parent claims are discussed with respect to this reference above. Missing from the examples is the use of ethylene as comonomer. However, one of ordinary skill in the art would be motivated to use this embodiment because the reference disclosure teaches same at page 3, line 25. Reasonable success would be expected when using such suggested embodiments.

11. Claims 10, 19, 20, 24, 26, 27, 30, 31, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cecchin et al. (EP 573862) in view of Korhonen et al. (FI 961152).

Parent claims are discussed with respect to the primary reference above. Missing from the primary reference, and the disclosure in the secondary reference, are the use of loop reactor as first stage (instant claims 10, 19, 20, 24), and the use of flash tanks, overhead stream and recycle (instant claims 26, 27, 30, 31, 35, 36). For disclosure of these elements, see Korhonen Figure 2, wherein the system schematic clearly shows these elements.

Cecchin has stated that the multi-reactor system may comprise liquid phase reactors, gas phase reactors, or both liquid and gas phase reactors (pg. 6, lines 2-4), but does not provide specific details of incorporating liquid phase reactors. Therefore, one of ordinary skill in the art would reasonably look to similar multi-reactor systems for specifics in the operation of liquid-gas systems. Korhonen has described just such a system, comprising a loop reactor and a gas phase reactor in series. One of ordinary skill in the art would be motivated to use the liquid-gas system comprising a loop reactor as described in Korhonen for the purpose of solving the noted problems described therein (pg. 3, lines 8-11), notably the problem of undesirable product

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quality due to uneven residence time distribution. Reasonable success would be expected when incorporating the loop reactor of Korhonen as the first stage of the process described in Cecchin because the similar Korhonen process has established the utility of a loop reactor followed by a fluidized bed reactor.

12. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cecchin et al. (EP 573862) in view of Garoff et al. (WO92/19653).

Parent claim 8 is discussed with respect to the primary reference above. The process exemplified in Cecchin is identical with that claimed except that the catalyst has not been transesterified. Garoff describes a catalyst of virtually identical components which has been transesterified, and one of ordinary skill in the art would be motivated to use the catalyst of Garoff to obtain the benefits of such use, particularly to solve problems of poor color and high aromatic residues in the resultant polymers (Garoff page 3, lines 27-34). Reasonable success would be expected because Garoff has shown the effectiveness of these catalysts.

### *Conclusion*

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rob Rabago whose telephone number is (703) 308-4347. The examiner can normally be reached on 6:30 am - 3:00 pm Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for the





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organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

R. Rabago  
Examiner  
Art Unit 1713

RR   
January 21, 2002

  
DAVID W. WU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700